

*ABSTRACT OF THE DISCLOSURE*

On a subscriber's line between an optical network unit and an optical line terminator according to the present invention, an ATM-PON transmission frame is able to be transmitted with an STM signal inserted therein, and an STM-PON transmission frame is able to be transmitted with an ATM signal inserted therein. The ATM signal and the STM signal are transmitted coexisting with each other, whereby an STM network and an ATM network can be integrated on the subscriber's line.